

CLAIM LISTING

1. (Currently Amended): A biodegradable implant comprising:
a rigid biodegradable polymer or copolymer matrix, and
a plasticizer dispersed within the rigid matrix only at the surface of the implant;
~~wherein the implant is flexible and rigid prior to insertion into an organ system;~~
wherein the plasticizer is operative to substantially exit from the implant after coming into contact with tissue fluids of an organ system,
wherein the bending resistance of the implant prior to the insertion of the implant into the organ system is substantially lower than after its insertion into the organ system; and
~~wherein the implant has a plasticizer created porous surface and a substantially nonporous core.~~

2. (Currently Amended): A biodegradable implant comprising:
a rigid biodegradable polymer or copolymer matrix, and
a plasticizer-created porous surface and a substantially nonporous core;
~~a plasticizer dispersed within the rigid matrix;~~
~~wherein the implant is flexible and rigid prior to insertion into an organ system;~~
~~wherein the plasticizer substantially comprises N-methyl-2-pyrrolidone (NMP);~~
~~wherein the plasticizer is operative to substantially exit from the implant after coming into contact with tissue fluids of an organ system;~~
wherein the bending resistance of the implant prior to the insertion of the implant into an organ system is substantially lower than after its insertion into the organ system; and
~~wherein the implant has a plasticizer created porous surface and a substantially nonporous core.~~

3. (Original): An implant as claimed in claim 1, wherein the matrix component comprises at least one of the following polymers or copolymers that is selected from the following group: polyglycolide, polylactides, polycaprolactones, polytrimethylenecarbonates, polyhydroxybutyrates, polyhydroxyvalerates, polydioxanones, polyorthoesters, polycarbonates, polytyrosinecarbonates, polyorthocarbonates, polyalkylene oxalates, polyalkylene succinates, poly(malic acid), poly(maleic anhydride), polypeptides, polydepsipeptides, polyvinylalcohol,

polyesteramides, polyamides, polyanhydrides, polyurethanes, polyphosphazenes, polycyanoacrylates, polyfumarates, poly(amino acids), modified polysaccharides, modified proteins and copolymers thereof.

4. (Currently Amended): An implant as claimed in claim 1, wherein the plasticizer comprises N-methyl-2-pyrrolidone (NMP), wherein at least the surface of the implant is porous.

5. (Previously Presented): An implant as claimed in claim 1, wherein active agents, selected from the group consisting of antibiotics, pharmaceutical products, growth hormones, stypitic agents and chemotherapy agents, are arranged in the implant.

6. (Previously Presented): An implant as claimed in claim 1, wherein the plasticizer is added to the matrix material at the latest at the forming stage of the implant.

7. (Previously Presented): An implant as claimed in claim 1, wherein the plasticizer is added to the implant just before the implant is inserted into the organ system.

8. (Original): An implant as claimed in claim 1, wherein the implant is a membrane used in guided tissue regeneration.

9. (Currently Amended): A method for manufacturing a biodegradable implant comprising the steps of:

selecting at least one biodegradable polymer or copolymer as a rigid matrix component of the implant,

adding a plasticizer to the matrix component,

~~wherein the plasticizer is operative to produce an implant that is flexible and rigid prior to insertion into an organ system;~~

wherein the plasticizer is dispersed within the rigid matrix and is operative to substantially exit from the implant after coming into contact with tissue fluids of an [[the]] organ system in such a manner that the rigidity of the implant increases substantially after the implant

is inserted into the organ system, and such that the implant, after insertion into the organ system, has a plasticizer-created porous surface and a substantially nonporous core; and

forming the flexible implant from the mixture of said matrix component and plasticizer;
~~such that the implant has a plasticizer-created porous surface and a substantially nonporous core.~~

10. (Currently Amended): A method for manufacturing a biodegradable implant comprising the steps of:

selecting at least one biodegradable polymer or copolymer as a rigid matrix component of the implant,

forming the implant from said matrix component, and

adding a plasticizer to the formed matrix component;

~~wherein the plasticizer is operative to produce an implant that is flexible and rigid prior to insertion into an organ system,~~

wherein the plasticizer is dispersed within the rigid matrix only at the surface of the implant, and is operative to substantially exit from the implant after coming into contact with tissue fluids of an ~~[[the]]~~ organ system in such a manner that the rigidity of the implant increases substantially after the implant is inserted into the organ system,

such that the implant, after insertion into the organ system, has a plasticizer-created porous surface and a substantially nonporous core.

11. (Previously Presented): A method as claimed in claim 10, wherein the plasticizer comprises N-methyl-2-pyrrolidone (NMP).

12. (Previously Presented): A method as claimed in claim 10, wherein the plasticizer is added to the implant just before the implant is inserted into the organ system.

13. (Currently Amended): A method as claimed in claim 10, wherein the matrix component comprises at least one of the following polymers or copolymers that is selected from the following group: polyglycolide, polylactides, polycaprolactones, polytrimethylenecarbonates, polyhydroxybutyrates, polyhydroxyvalerates, polydioxanones, polyorthoesters, polycarbonates,

polytyrosinecarbonates, polyorthocarbonates, polyalkylene oxalates, polyalkylene succinates, poly(malic acid), poly(maleic anhydride), polypeptides, polydepsipeptides, polyvinylalcohol, polyesteramides, polyamides, polyanhydrides, polyurethanes, polyphosphazenes, polycyanoacrylates, polyfumarates, poly(amino acids), modified polysaccharides, modified proteins and copolymers thereof.

14. (Cancelled)

15. (Previously Presented): A method as claimed in claim 10, wherein active agents are added to the implant.

16. (Original): A method as claimed in claim 15, wherein the active agents are first mixed into the plasticizer and then added together with the plasticizer to the matrix component.

17. (Previously Presented): A method as claimed in claim 10, wherein the implant is a membrane used in guided tissue regeneration.

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